

CLAIMS

[1] A webbing retractor comprising:

a rotating member by which, due to the rotating member being rotated in a take-up direction, a webbing is taken-up, and by which, due to the rotating member being rotated in a pull-out direction, the webbing is pulled-out;

a pretensioner mechanism which, by being operated, rotates the rotating member in the take-up direction; and

an engaging member which, at a time of operation of the pretensioner mechanism, is changed from a non-engageable state in which the engaging member cannot engage with the rotating member to an engageable state in which the engaging member does not engage with the rotating member to which rotational force in the take-up direction is applied and engages with the rotating member to which rotational force in the pull-out direction is applied, the engaging member impeding rotation of the rotating member by engaging with the rotating member.

[2] The webbing retractor of claim 1, further comprising:

an urging component for urging the engaging member toward the engageable state; and

a moving member which, by engaging with the engaging member, sets the engaging member in the non-engageable state, and, due to the moving member being moved due to operation of the pretensioner mechanism, engagement of the moving member with the engaging member is released and the engaging member is changed to the engageable state by the urging component.

[3] The webbing retractor of claim 1, further comprising a moving/urging member which, by being moved due to operation of the pretensioner mechanism, urges the engaging member and changes the engaging member from the non-engageable state to the engageable state.

[4] The webbing retractor of any one of claims 1 through 3, wherein the engageable state of the engaging member is maintained after operation of the pretensioner mechanism.

[5] The webbing retractor of claim 4, further comprising a restricting member which, by being moved due to operation of the pretensioner mechanism, restricts movement of the moving/urging member and the engageable state of the engaging member is maintained.

[6] The webbing retractor of any one of claims 1 through 5, further comprising a take-up shaft on which the webbing is taken-up, and at one side of the take-up shaft, the pretensioner mechanism applies rotational force to the rotating member and the engaging member engages the rotating member.

[7] A webbing retractor comprising:

a webbing applied to a vehicle occupant;

a pretensioner mechanism, the webbing being taken-up due to the pretensioner mechanism being operated; and

a maintaining component for, after conclusion of operation of the pretensioner mechanism, maintaining a load, which is applied from the webbing to the vehicle occupant, at the load at a time of the conclusion of operation of the pretensioner mechanism.

[8] The webbing retractor of claim 7, further comprising a rotating member by which, due to the rotating member being rotated in a take-up direction, the webbing is taken-up, and by which, due to the rotating member being rotated in a pull-out direction, the webbing is pulled-out, the rotating member being rotated in the take-up direction due to the pretensioner mechanism being operated,

wherein the maintaining component has an engaging member which, at a time of operation of the pretensioner mechanism, is changed from a non-engageable state in which the engaging member cannot engage with the rotating member to an engageable state in which the engaging member does not engage with the rotating member to which rotational force in the take-up direction is applied and engages with the rotating member to which

rotational force in the pull-out direction is applied, the engaging member impeding rotation of the rotating member by engaging with the rotating member.

[9] The webbing retractor of claim 8, further comprising:

an urging component for urging the engaging member toward the engageable state;
and

a moving member which, by engaging with the engaging member, sets the engaging member in the non-engageable state, and, due to the moving member being moved due to operation of the pretensioner mechanism, engagement of the moving member with the engaging member is released and the engaging member is changed to the engageable state by the urging component.

[10] The webbing retractor of claim 8, further comprising a moving/urging member which, by being moved due to operation of the pretensioner mechanism, urges the engaging member and changes the engaging member from the non-engageable state to the engageable state.

[11] The webbing retractor of any one of claims 8 through 10, wherein the engageable state of the engaging member is maintained after operation of the pretensioner mechanism.

[12] The webbing retractor of any one of claims 8 through 11, further comprising a take-up shaft on which the webbing is taken-up, and at one side of the take-up shaft, the pretensioner mechanism applies rotational force to the rotating member and the engaging member engages the rotating member.

[13] A webbing retracting method comprising:

taking-up a webbing by operating a pretensioner mechanism; and
at a time of operation of the pretensioner mechanism, changing an engaging member from a state in which pulling-out of the webbing cannot be impeded to a state in which taking-up of the webbing is permitted and pulling-out of the webbing is impeded.

[14] The webbing retracting method of claim 13, further comprising:

rotating a rotating member in a take-up direction by operating the pretensioner mechanism, the webbing being taken-up due to the rotating member being rotated in the take-up direction and the webbing being pulled-out due to the rotating member being rotated in a pull-out direction; and

at the time of operation of the pretensioner mechanism, changing the engaging member from a non-engageable state, in which the engaging member cannot engage with the rotating member, to an engageable state, in which the engaging member does not engage with the rotating member to which rotational force in the take-up direction is applied and engages with the rotating member to which rotational force in the pull-out direction is applied and impedes rotation of the rotating member.

[15] The webbing retracting method of claim 14, further comprising:

setting the engaging member in the non-engageable state, by causing a moving member to engage with the engaging member; and

by moving the moving member by operation of the pretensioner mechanism, canceling engagement of the moving member with the engaging member, and changing the engaging member to the engageable state by an urging component which urges the engaging member toward the engageable state.

[16] The webbing retracting method of claim 14, further comprising:

a moving/urging member urging the engaging member and changing the engaging member from the non-engageable state to the engageable state, by moving the moving/urging member by operation of the pretensioner mechanism.

[17] The webbing retracting method of any one of claims 14 through 16, further comprising:

maintaining the engageable state of the engaging member, after operation of the pretensioner mechanism.

[18] The webbing retracting method of any one of claims 14 through 17, further comprising:

at one side of a take-up shaft on which the webbing is taken-up, the pretensioner mechanism applying rotational force to the rotating member and causing the engaging member to engage with the rotating member.

[19] The webbing retracting method of any one of claims 13 through 18, further comprising:

after conclusion of operation of the pretensioner mechanism, maintaining a load, which is applied from the webbing to a vehicle occupant to which the webbing is applied, at the load at a time of the conclusion of operation of the pretensioner mechanism.

[20] A vehicle comprising the webbing retractor of any one of claims 1 through 6.